The 50 MH3 DX Bulletin

Volume 17, Issue 2

February 2006

ISSN 1073-1024

The 50 MHz DX Bulletin was founded by Harry Schools K3HS. It is dedi-The 50 MHz DX Bulletin was founded by Harry Schools K3HS. It is dedicated to the understanding and utilization of long distance propagation in the 6-meter Amateur band. The current editor and publisher is Victor Frank, K6FV. Subscription rates are \$24 U.S. first class mail, \$27 Canada/Mexico airmail, and \$30 by airmail elsewhere for 12 issues. Payments may be made to k6fv through PayPal. Circulation matters and DX reports should be sent to Victor R. Frank, K6FV, 12450 Skyline Blvd., Woodside, CA 94062-4554 USA. My Internet address is victor.frank@sri.com. My web site is http://www.qsl.net/k6fv. The bulletin may be freely quoted, provided that credit is given.

DX Operations

Most of the listings in this column came from SM7AED's notebook.

Mongolia, JT1Y, JT0Y: A group of Italian radio amateurs plans to operate HF-6m with emphasis on 12m and 6m from 2 locations in Mongolia between April 19 and May 8.

Cambodia, XU7ADI: Pete, SM5GMZ, plans HF-6m operation (second priority to work) January-March.

Indonesia, YC6JKV: and YB6LYS, YB6PLG, YB1BOD, and YC6LAY will be active from Nias Is. (OC-161) between April 20-27. They plan to operate for 5 days on 6, 10, 15, 20,m and 40m. Details at http://www.toba-dx-group.org/nias/

Dodecanese, SV5: A group of Greek radio amateurs are headed to Patmos Is. to operate 160-6m between March 28 and April 2

Mozambique, C9: Frosty, K5LBU, and Tom, WW5L, plan to operate HF, 6m, and 2m EME from Bilene from June 29-July 13. They have room for more team members. If you're interested, contact K5LBU at frosty1@pdq.net. See their web page at http://www.tdxs.net/C9.html for more details.

Malawi, 7Q7PF: Cato is listed as being active on various digital modes on 40 to 6m.

Morocco, CN2R: Jim, W7EJ, plans operation during the CQ WW WPX SSB contest March 25-26. Outside of the contest be plans to be on the WARC bands and 6m EME.

Hungary, HA: is expecting new amateur radio regulations within a few months. Hungarian amateurs will likely get 50-52 MHz with 10W/30W depending on license class, as are visitors with valid CEPT licenses.

Albania, ZA/IKOOKY: Emilio, a UN Peace-Keeper in Tirana (JN91wh) until August 2006 will be active evenings from 20Z to 23Z and weekends from 0630Z onwards in FSK441A. He is active on 6m and 2m MS. He says that Tirana is surrounded by mountains, so VHF is very difficult.

Monaco: as of January 26 has 50-52 MHz assigned to the amateur service with 51.2-52.0 MHz secondary shared. Also assigned are 70.0-70.5 MHz secondary shared and 135.7-137.8 MHz.

Jersey Is, GJ/K8PT, GJ/K3PLV: Pete and Craig plus Tom, W8JWN, and Jim, N1NK, will be operating 24 hours a day on 6-160m with 2 or 3 stations from EU-013 March 8-15.

Denmark, OZ/DL2VFR: Ric plans to be active on HF-6m from Laeso Is. (JO57)(EU-088) July 23-30 including the RSGB IOTA contest July 29-30.

Jan Mayen, JX9NOA: is QRV, but indicates propagation is poor now. He plans to stay there until October 2006.

Svalbard, JW4GHA: Roger, LA4GHA, currently active as T98GHA until the end of November plans to operate 160-2m from Bear Island (EU-027) between December 1 and June 2006.

Bermuda, VP9/N0JK: Jon will on 50, 144, and 432 MHz from Bermuda for the 2006 ARRL June VHF QSO Party. Outside of the contest he will focus on working Europe.

Haiti, HH4/W3CMP: Chris plans to travel to Haiti June 17-28 for a 6 and perhaps 2m DXpedition. He will operate from St. Louis du Nord on the north coast (FK39).

Turks&Caicos, VP5/VE3OP: Craig and his wife Roxanne, VA3ROX, plan to operate 160-6m here between March 12-22.

St. Lucia, J6: Oleh, UR5BCP, is planning to operate 160-6m from NA-108 from March 30 through April 5.

Antigua, V25WY & V25OP: Bob, W4OWY, and Mark, W9OP plan to operate 160-6m March 13-19.

Ascension Is (AF-003), ZD8I: Ian, G8WVW with his family are new residents until the end of March 2006. He plans 80-6m activity. Occasional visits to the Falkland Is. are also a possibility.

Alaska, KL7: K6MYC and W6JKV plan to operate 6 and 2m EME from Barrow (BQ13), which is the northernmost city in Alaska, next late June/July.

Papua New Guinea, P29K: P29ZAD, P29NB, P29TL, & P29KPH will activate Kranket Is. (OC-258) on 80-6m from March 17-20.

Beacon News

Ireland, EIOSIX: A permit has been issued for operation on 50.052 from Co. Kildare.

Hawaii, KH6RZ: on 50.061 is now running 40W to an omnidirectional antenna. The beacon can be broken during its 20 second quiet period if Fred is in the shack.

California, K6FV: on 50.069 has switched antennas to the SW (Pacific) for March and April until the summer Es season, when it will return (most of the time) to the NE.

February 2006 Beacon List				Freq 50033	Call VE7FG	Town Prince George BC	Loc	Pwr 50	
		Credits to G3USF			50033	OH5RAC	Kuusankoski	KP30HV	
Freq	Call	Town	Loc	Pwr	50034	YU1EO	Beograd	KN04ML	
50000	GB3BUX	Nr Buxton	I093BF	25	50034 50035	T94FC HC8GR	Zenica Galapagos Is.	JN93ET	
50000	9A1CAL VE1SMU	Nr Halifax NS	JN86EL FN84	2 25	50035	OY6SMC	Faroe Is.	EI59 IP62MB	30
	IW3FZQ	Monselice PD	JN55VF	8	50036	VE4VHF	Headingly MB	EN19	35
50002	IQ1SP				50036	OA4B	Lima	FH17	13
	7Q7SIX		KF75	5	50036 50036.6	LW2ETU 7J6CCU	Buenos Aires Okinawa	GF05TH	1
50002	PY2LDF PY2WFG		GG67	5	50037.5		Hiiuma Island	KO18CW	15
50003	IQ6VP		JN62QI		50038	C21SIX	Menen	RI39LL	
50004.0		Rome	JN61HV	10	50038	LU5EGY VO1ZA	Buenos Aires	GF05	15
	4NOSIX	Nr Belgrade	KN04FU	1	50039 50039	FY7THF	St Johns NFD Kouru?	GN37 GJ35	10 10
50005 50005	ZS2SIX 9M2TO	Port Elizabeth Penang Island	KF25 OJ05DJ	25 50	50039.5		Winnipeg	E011	10
50006	A71A	Doha	LL55SH	8	50040	VE2YKT	Rapide-Blanc QC	FN37LS	0.5
50007	VA2ZFN	Mt Kanasuta QC	FN08HE	4	50040	ZL3SIX	Christchurch	RE66	65
50007 50007.8	ZD7VC	St Helena	IH74	45	50040 50041	SV1SIX VE6EMU	Nr Athens Camrose AB	KM17UX DO33	25 35
50007.8	XE2HWB	Metro-Manila La Paz Baja Cal.	PK04MP DL44	10 10	50042.5		St Austell	I0700J	
50008.0		Park Rapids MN	EN26	8	50043	VE 6ARC	Grand Prairie AB		25
50008	I5MXX	Pieve A Nievole	JN53JU	10	50043.3 50044	ZL1VHF ZS6TWB	Whitford Pietersburg	RF73MB	
50009.5		Pindamonhangaba Iraklio	GG77GA KM25NH	4 30	50045	OX3VHF	Qagortog	KG46RD GP60QQ	15 20
50010.0	JA2IGY	Mie	PM84JK	10	50045	LZ2CM	Montana	KN13NE	
50011	TG9SO		EK44	45	50045.6		Hopen Island	KQ26MM	
50012	OX3SIX	Kulesuk	HP15EO	100	50046.5 50047	JW7SIX	Alice Springs Kappe Linne	PG66	15
50012 50013	HP1RCP CU3URA	Cerro Jefe Terceira I.	FJ09HD HM68	5	50047.2		Kappe Lime	JQ68TB KN03WH	10
50013	LZ1JH	Stara Zagora	KN22TK	1	50048.2		Iqaluit NU	FP53RS	25
50014	V73SIX	Roi Namur I.	RJ39RJ	45		TROA	Libreville	JJ40	15
50014.5		Keningau	OJ85AX	2	50048.7 50049.4		Bear Island Slatina Okr	JQ94LM	
50015 50015	9Y4AT SV5SIX	Trinidad Rhodes	FK90ER	25	50050	6Y5RC	Kingston	KN22GS	5 15
50015.5		Lincoln City	FF95	15	50050	VA2WW	Quebec City PQ	FN46	5
50015.5	VA2MGL	La Malbaie PQ	FN47UQ	6	50050	ZS6DN	Nr Pretoria	KG44DE	
50016	GB3BAA	Nr Tring	IO91PS	10	50051 50051	LA7SIX YO9FTR	Bardu	JP99EC	30
50017 50017	JA6YBR OH0SIX	Miyazaki	PM51RT	50	50052	EI6IZ		KN25XG IO53HU	3
50018	VE4ARM	Austin MB	EN09MW	50	50053	XE3RCM		EL50	
50019	IZ1EPM	50k SE Turin	JN34WR	15	50053.5		- 11	JO22NC	
50019	HB9DUC	Renens	JN36HM	2	50054 50054.4	OZ6VHF VE2YAT	Ribe St Honore QC	J057EI F040	25
50020.7	ER3SIX		JN52 KN47JG	10	50055	V44KAI	St Kitts/Nevis	FK87QH	2
50021.1			1411700	10	50055.6			CN89	_
50021	YU7AZ				50056 50057.0	I8EMG	Cozzo Cervello	ЈМ89ВЈ	
50022 50023V	S55ZRS	Bourscheid	JN76MC	8 5	50057.0	IT9X	Darwin Messina	PH57 JM78SG	100
50023	SR5SIX	Skubianka	JN39BF KO02LL	2	50057	TF3SIX	Reykjavik	HP94BC	12
50023	XE1KK	Mt Popocatepet1	EK09QC	20	50057.5		Nerang	QG61	6
50023	OZ7IGY	Toelloese	J055V0	30	50058 50058	HB9SIX IQ4AD	Nr St Gall	JN47QF	2
50023.0	JA1ZYK	Chiba Asuncion	QM05 GG14	10	50058	OE3XLB	Parma	JN54DT JN87AT	8 10
50024.1		Crabbe Mtn	FN66	3	50059.5	VE3UBL	Brougham	FN03	10
50024.9		Gillam MB	E026PI		50059.5		Birmingham AL	EM630M	4
50025	9H1SIX	Attard, Malta	JM75FV	7	50059.7		Bristol TN Knightdale NC	EM86	100
50025 50025.4	YV4AB OH1STX	Valensia Ikaalinen	FK50 KP11QU	15 40	50060.0	GB3RMK	Nr Inverness	FM05RT I077U0	40
50026	SR9FHA	Krakow Choragwica		4	50060	XE2OR	Nava Coahuila	DL980K	40
50027	IW3GXW	Sottomarina VE	JN660B		50060.0		Kenner LA	EM40	20
50027	CN8MC	Nr Rabat	IM63NX	20	50060.0	WBURMO K5AB	Fairbury NE	EN10	25
50027 50028	JE7YNQ IQ4FA	Fukushima Ferrara	QM07	50		K9MU	Goldthwaite TX Chippewa FallsWI	EM01 EN44	50 25
50028	5T5DUB	Nouakshott	IK28AC	15	50061	AE3J	Aston TownshipPA		5
50028	XE2ED	Colonia Guerrero	DM10	15		WЗНН	Nr Ocala FL	EL89	3
50030	PY5NN WD4M77	Ingillo	GG54	10	50061.7	KH6RZ K8JA	Pahoa HI Sterling Hts MI	BK29k2	20
50030 50030	WP4MZA 9A0BHH	Luqillo Moslavacka gora	FK78DI JN85JO	10		KB6BKN	Novato CA	EN82JP CM88	2
50031.0		Ascension I.	II22TB	50	50062	C6AFP	Abaco	FL16	1
50031.5		Tavarade	IN50NE			W9JN	Stevens Point WI	EN54DN	1,1
50032 50033	JROYEE VE2RCS	Niigata Lachute PQ	PM97 FN25	2	50063 50063	KE4SIX LYOSIX	Augusta GA	EM83 KO24PS	5 7
	221.00		11120			KU7V	Brigham City UT	DN31XM	5

Freq	Call	Town	Loc	Pwr
50063	WA4HFN	Memphis TN		
			THE	10
50063	KF40DI	Newbern TN	EM56	10
50063.3	NL7Z	Wasilla AK	BP51	25
50064.0	W3VD	Laurel MD	FM19NE	7
50064	GB3LER	Lerwick	IP90JD	30
50065	KS5V	San Antonio TX		988
50065		VL Circle AK	BP75XW	
50065	GB3IOJ	Jersey	IN89WE	10
50065.0	WOIJR	Aurora CO	DM79	20
50065.0	KAOCDN	Aurora CO	DM79	20
50065.2		Haleiwa HI	BL01	50
50065.5		Fruita CO	DM59	4
50066	W5GPM	Bartlesville OK	EM26	
50066.0	VK6RPH	Walliston WA	OF88	10
50066.0	WA10JB	Bowdoinham ME	FN54	10
50066.2	W5SIX	Horse Mountain	DM54WA	1
50066.7		Morristown TN	EM86	10
50066.9	K4HRS	Merritt I. FL		
50067	WZ8D	Loveland OH	EM79	15
50067	OH9SIX	Pirttikoski	KP360I	35
50067	N7DB	Boring OR	CN85RM	5
50067.5	N3LL	Bridgeville PA	EN90	5
50067.5	N8PUM	Felch MI	EN65BX	10
50067.7	K0EC	Vail Mtn CO	DM69	45
50068	N6NB		CM05	
50068.5	K2ZD	Union City NJ		20
			FN20	20
50068.8	LU1DMA	Buenos Aires	GF05PH	1
50068.9	K6FV	Woodside CA	CM87UL	100
50069	KL7FU	Nr Barrow AK	BQ11	50
50069	W9VW	Indianapolis IN	EM69WT	8
50069	W8GTX	Howell MI	EN82	3
50069	NINTE	Holland MA	FN42	5
50069	W7BAS	Kenmore WA	CN87TG	10
50069.5	NOUD	Nr Halliday ND	DN87	50
50069.9	W1RA	Cape Cod MA	FN41	15
50070	W2RTB	Rochester NY	FN13	
50070	SK3SIX	Edsbyn	JP71VF	
50070	EA7VHF			
50070	WA7X	Fairview UT	DMAGIIO	100
			DM49H0	100
50070	WA7ACO	Richland WA	DN06	
50070	KF4YCP	PalmBeachG'dnsFL		
50070	W4CLM	Stanley NC	EM95	
50070	KG6JAI	Burbank CA	DMO4	
50070.1		Chattenooga TN	EM75	1
50070.6	KOETC	Joplin MO	EM27	10
50071	LU1WDY	Trelew Chubut	FE76IS	5
50071	W5HN	Allen TX	EM13SJ	0.5
50071	W3DOG	Laurel MD	FM28EI	45
50073	KP2A	US Virgin Is	FK78	
50073	WA6LIE	Salinas CA	CM96EQ	5/4
50073		Duluth MN		
	KOKP		EN36WT	100
50073	K4YKZ	Laurel Park NC	EM85	
50074	EH1DVY	Soria	IN81	10
50074	KD4HLG	Conyers GA	EM73 3	3/30
50074	W5RP	San Angelo TX	DM91	
50074	N7LT	Bozeman MT	DN45	3
50074	FG1JD	Guadeloupe	21143	9
		*	E2201	
50074	K8PLF	Maumee OH	EN81	
50075	K1QVR	Warren MA	FN32VF	1
50075	VR2SIX	Hong Kong	OL72	
50075	KA7BGR	Central Point OR	CN82	40
50075	YV5LIX	Nr Caracas	FK60NM	
50075	YO3KWJ		KN34BJ	10
		Day Diday		
50075.0		BBay Ridge MD	FM18SW	4
50075.3	LW2ETU	Avellaneda BA	GF05TI	1
50076	WR9L	Bourbonnais IL	EN61BD	10
50077	K4AHO	Zellwood FL	EL98FR	7.5
50077.6	NOLL	Smith Center KS	EM090W	14
50078	NM7D			
			DM37	15
50078	AC3A	Leawood KS	EM28QV	10
50078.0		STATE OF THE PARTY	KM74	8
50078.1	WD80ST	Goetville MI	EN76	10
50079	JX7SIX	Jan Mayen	IQ50RX	10
50079	W4CHA	Tampa FL	EL88	1111111
100000		•		

Freq	Call	Town	Loc	Pwr
50079.0	W3CCX	Philadelphia PA	FM29JW	4
50080	KOUO	Kiowa KS	EM07	10
50080	ZS1SIX	Cape Town	JN96FB	8-1
50080	FK8SIX	Noumea	RG37FR	15
50080.0	UU5SIX	Mtns Nr Yalta	KN74AL	10
505080.0	4X4SIX	Tel Aviv	KN72JB	3
50080.9	AC7XP	ParadiseValleyAZ	DM43	3
50082	UT7UV/A	-	KO40VK	10
50082.5	LU8DCH	San Luis	FF66UQ	1.5
50083	VE2NOQ	Ontario	FN08	
50083.63	LU7YS	S.Martin de los	FF49IU	5
		Andes, Patagonia		
50084.0	UT5G	Petri UKR	KN66LS	10
50087	RB3SIX		KO73EF	
50087	VK4RTL	Townsville	QH30J0	10
50120	VK2RS	Bathurst NSW	OF46SN	5
50283	VK3RMH	25k NE Melbourne	OF220H	10
50288	VK2RHV	Mt Sugarloaf NSW	QF57SC	10
50289	VK2RSY	Nr Sydney NSW	OF56MH	25
50293	VK3RMV	5k N Hamilton	QF02WH	15
50297	VK7RST	Mt Nelson Hobart	QE37	15
50300	F5TND	1004		10
50304	VK6RSX	Dampier WA	OG89	50
50306	VK6RBU	Bunbury WA	OF76	20
50315	VK5RBV	Barossa Valley	PF95MK	12
50315.0	FX4SIX	Neuville	JN06CO	25
50321	ZS5SIX	Hilton	KG50	8
50480	JH8ZND	Chitose	QN02UW	10
50485	JH9YHP	Toyama	PM86	2
50490	JG1ZGW	Tokyo	PM95VP	10
50499.5	5B4CY	Zygi	KM64PT	20
50520.3	SZ2DF	Heraclion Crete	KM25	1kw
		(usually) or Hania	1	
51030	ZL2MHB	Hawkes Bay	RF80	
52275	ZL2MHF	Nr Wellington	RE78NS	10
52315	VK3RSX	Dunolly VIC	QF13	10
52346.5	VK4ABP	Longreach	QG26	10
52438	VK3FGN	Mildura VIC	0110	TIU.
52450	VK5VF	Adelaide Mt Lofty	PF95	8
52490	ZL2SIX	Blenheim	RE68	400

I have excluded a few part-time, experimental, seasonal, and unknown beacons from G3USF's list, which may be found at http://www.keele.ac.uk/depts/por/50.htm. Please advise Martin (and me) of any additions or subtractions that should be made to the above list.

Where Have Earth's Magnetic Poles Gone?

They hang loose and discolored from the plywood ceiling of my shack--aeronautical charts of California, Nevada, and Oregon. Every once in a while I'd go out and check the direction to some mountain peak or the magnetic declination, about 17° 40'E, for my location 20 miles south of San Francisco.

Declination? That's the direction the balanced compass needle points, towards the north magnetic pole, sort of. Without the balance it would point into the ground as the magnetic dip is about 65° according to a map in *Ionospheric Radio Propagation* using Cain & Neilon 1963 data.

I knew all along that the magnetic poles move, but I didn't appreciate by how much until I searched the web for an update. I was planning to take some photos of satellites in the Clarke belt and figured since I was using a compass to help aim the camera, I ought to get the latest values of the declination. I entered my latitude, longitude and date into one of the programs and got a present declination of 14° 40'E. THREE DEGREES WEST of the declination that had been using for the past 40 years or more.

December 29, 2003: Every few years, scientist Larry Newitt of the Geological Survey of Canada goes hunting for the Earth's north magnetic pole. At the moment it's located in northern Canada, about 600 km from the nearest town, Resolute Bay, population 300.

James Ross located the pole for the first time in 1831 after an exhausting arctic journey during which his ship got stuck in the ice for four years. In 1904, Roald Amundsen found the pole again and discovered it had moved-at least 50 km.

The pole kept going during the 20th century, north at an average speed of 10 km per year, lately accelerating "to 40 km per year," says Newitt. At this rate it will exit North America and reach Siberia in a few decades.



One encyclopedic web source stated that "The magnetic poles are not fixed, but follow circular orbits with diameters of about 160 km." The above map, however, shows a relatively straight-line movement of the Earth's north magnetic pole across the Canadian arctic, 1831-2001. {Credit: Geological Survey of Canada. The present location of the north magnetic pole is somewhere off the top of this map. Estimates from the web suggest a north magnetic pole position at 82.7°N 114.4°W for 2005 and a south magnetic pole position at 63.5°S 138.0°E for 2004. However, the most recent measurements reported were 2001 for the former and 1998 for the latter. The 2001 measurements stirred up press articles, some with dire warnings like "Is Earth's magnetic field collapsing?" Under the circumstances, some scientists would like to lie low, but keeping track of the north magnetic pole is Newitt's job. He said "We usually go out and check its location once every few years. We'll have to make more trips now that it is moving so quickly.'

Earth's magnetic field is only approximately that of a dipole. *Ionospheric Radio Propagation* (1965) indicated that the best fit between the earth-centered dipole and the actual magnetic field was obtained by taking the Boreal (N) magnetic pole at 78.3°N, 69°W and the Austral (S) magnetic pole at 78.3°S, 111°E. Note that the locations of the magnetic poles for a best fit world-wide dipole field model may not coincide with the actual locations of the poles. More complicated magnetic field models using spherical harmonic expansion have been published periodically. I note IGRF85 has at least 2x12x12x4=1152 coefficients. I do not have any that include the acceleration of Boreal polar movements noted in 2001, or the 1998 Austral pole location for that matter.

Magnetic field lines radiate between Earth's north and south magnetic poles just as they do between poles of a bar magnet, and the strength and direction of these magnetic field lines affect the distribution of ions in the ionosphere. Charged particles (mostly of solar origin) can become trapped on these field lines to form the magnetosphere. The magnetosphere, according to one web article, extends down to 80 to 60,000 km on the sunlit side of the earth, and trails out more than 300,000 km on the night time.

The strength of the field at the Earth's surface varies from <30 microTesla (0.3 Gauss) in an area including most of South America and South Africa to over 60microTesla (0.6 Gauss) around the magnetic poles. Note that world map of total magnetic intensity published in *Ionospheric Radio Propagation* shows 0.239 Gauss near Rio de Janeiro, Brazil and 0.615 Gauss near Churchill, Manitoba, Canada. Spacecraft have noted higher energies of trapped particles over the former area (the South Atlantic) than other areas of the world.

The "permanent" magnetic field of the earth is not produced in the same manner as a bar magnet, which is created by the coordinated motion of electrons within iron atoms. The earth's core is too hot (>770°C) for that. The most credible explanation of the cause I have found is that of University of California professor Gary Glatzmaier who is quoted (in a web article entitled "Earth's Inconstant Magnetic Field":

At the heart of our planet lies a solid iron ball, about as hot as the surface of the sun. Researchers call it "the inner core." It's really a world within a world. The inner core is 70% as wide as the moon. It spins at its own rate, as much as 0.2° of longitude per year faster than the Earth above it, and it has its own ocean: a very deep layer of liquid iron known as "the outer core."

Earth's magnetic field comes from this ocean of iron, which is an electrically-conducting fluid in constant motion. Sitting atop the hot inner core, the liquid outer core seethes and roils like water in a pan on a hot stove. The outer core also has "hurricanes"--whirl-pools powered by the Coriolis forces of Earth's rotation. These complex motions generate our planet's magnetism through a process called the dynamo effect.

Glatzmaier and colleague Paul Roberts have modeled the situation of the core with equations of magnetohydrodynamics. They find similar changes to what have been found in paleomagnetism, namely that the magnetic field waxes and wanes, poles drift and occasionally flip.

The Earth's Inconstant Magnetic Field article also indicates that compass needles in Africa are drifting about 1 degree per decade, and that globally, the magnetic field has weakened 10% since the 19th century.

"What does this have to do with amateur radio?" you may ask. If you are surveying property (or for a very directive antenna), you would be better off using astronomical fixes than a compass.

We do not know for sure the extent of the change in the Earth's general magnetic field in the ionosphere caused by movement of the magnetic poles on the earth's surface. Let's assume, however, than a movement of the north magnetic pole of 10° to the north moves the contours of constant dip (over the continental USA) that far north as well. That could move the auroral zones 10° of latitude as well. Would the occurrence of aurora in Seattle mimic the occurrence of the same in San Francisco 40 or 50 years previously?

More important, would bumping the auroral zones 10° further north (for the western hemisphere) allow more 6m contacts between west coast USA and Europe and between east coast USA and Asia?

You've probably seen maps of the world-wide distribution of F-layer critical frequencies. These critical frequencies are determined more by magnetic dip than by solar zenith angle. For instance, locations in eastern Asia have higher MUFs than stations in North America at the same latitude. Also, daytime MUFs are higher during local winter than during local summer even though the sun is more directly overhead during the latter.

Would moving the winter daytime F2 critical frequency contours 10° further north help North American 6m operators? You better believe it!

On the other hand, if you're in Siberia or northern Japan perhaps you wouldn't welcome the north magnetic pole getting any closer.

Somewhere, someone must be gathering magnetic field data from one of the satellites still aloft. Done! In fact, IGRF05 is available and I am downloading it from NGDC, NOAA presently. More next month.

I am not as optimistic about updating ionospheric electron density models. Everything we've got is based on 1960's or earlier (IGY) data. There are (to my knowledge) no ionospheric sounders operating in space any more and the number on the ground is shrinking, as is government support for ionospheric physics.

Keep in mind that the F-layer may have moved 10° to the north for the western hemisphere since ionospheric models in present use were made. Or not!

The predictions you get from your favorite software will probably be pessimistic, but 6m hams have been happy to work with situations that are 3% probable (or less).

How much further do you think you could work (for a given propagation mode) if you had 20 dB more transmitter power or 20 dB more antenna gain? Not likely, you say? How about 20 dB or more signal processing gain? That's what 6m amateurs are claiming with JT65A. Better get with it before the next solar cycle starts (now estimated late 2007 or early 2008.)

February 2006 DX Reports

The following reports of 50 MHz DX propagation are courtesy of JA1VOK, W5UWB, K6QXY, G4UPS, and postings on the Internet. Apologies to any sources I may have inadvertently neglected.

Listings obtained from the OH2AQ reflector include distances in kilometers. These are determined preferentially from the grids in the post, and otherwise from one or both of the prefixes of the calls. Note that the latter results in VERY rough approximations to the distances, especially for large countries and call areas.

The first entry is *mmddhhii*, where *mm* is the month, *dd* is the day of the month, *hh* is the hour UTC, and *ii* is the minutes after the hour. The year is understood to be 2006. Symbols just before the call of the reporting station include: V=Video Carrier, I=Inband video sidebands, F=FM audio, B=beacon, C=CW, D=Telemtry Data, J=Digital, typically JT6M or JT65A for EME, R=RTTY, S=SSB, W=mode not mentioned (or both CW & SSB), H=heard only. BSc = backscatter.

Reports of Antarctica

St. Pet	er I	Is.		
02121116	3Y0X	CQ EU	50.010	I2FJS
02121648	3Y0X	CW ?	50.110	SVIBY
02140454	3Y0X	I THINK	I GOT HIM .110	K5NZ
02191233	3Y0X	59 >JO22	15885 50.110	PA1PA

Reports of Africa

MOROCCO
02211858 CN8MC 549 1675 50.026 B G4IG
02211909 CN8MC 429 1675 50.027 G4PC

JAPAN

Reports of Asia (FarEast)

02081338 JR6EXN EME 9820 50.031 J G4IGO 02221336 JALZYK 559 >PM37 1269 .023 B HLILTC 02250251 JR1EDE PM98>EL96 11673 .240 H KE4WBO 02250251 DS1MEC >QM05 50.110 H JA1VOK 01290736 DS2CDI >QM05 50.110 H JA1VOK 01290738 DS1MIN CW >QM05 50.107 H JA1VOK 01290738 DS1MIN CW >QM05 50.107 H JA1VOK 02110930 DS4DBP >QM05 50.110 H JA1VOK 02110909 DS1PDP >QM07 50.110 H JA1VOK 02110909 DS1PDP >QM07 50.110 H JA1VOK 02110916 HLILTC 1269 50.023 JEIBMJ 02151013 HLILTC >QM05 50.110 H JA1VOK

Reports of Europe

	559 KP00>JO80 1139 599 KP00AB 1713 .190			
AUSTRIA				
02012046 OE5MPL	JT6M MS 1491 50.230		G4PCI	
02041003 OE5MPL	JT6M PETE 1491 .230		GOCHE	
02060841 OE5MPL	W/EBIEHO JT6M 1556	H	GW6TEO	
02071514 OE6DJG				
	CQ JT6M 1491 50.230			
02121045 OFSMDT.	JT6M 980 50 230	T	OZIDIT	

OFIETOJO					20.2	30 0	OSTDOO
02121114	OE5MP1	JT6M	MS 8	338	50.2	27 J	LZ4KK
BELG	IIIM						
02030856	ON6AB	J021E	C>INT	73DM	1133		EB1EHO
02051325							
02072116	ON 6AB	CO JT	6M 20	006	50.2	30	OZ1DJJ
02121214							GOCHE
02121221	ON 6 AB	JT6M '	TROPO	192	2 .2	25 J	G4PCI
02141811	ONGAR	JO21E	CATNO	MUE	1133		EB1EHO
02221754							G7HEJ
02221755	ON4TO	57 JT	6M TE	192	2 2	30	G4PCI
02221830	ONATO	TREN	2205	. +>+			
02221030	ONATO	O TOM	1/82		50.2	30 J	DF2UQ

BULGARIA 02091833 LZ4KK JT6M 1858 50.230 PF7M 02120931 LZ4KK CQ JT6M 1762 50.230 H OZIDJ 02261553 LZ4KK 1161 50.230 H ON4IO	IJ
CRETE 02041748 SV9 S5 QSB>JN53 1491 50.010 B IK5YJ	Y
CROATIA 02111405 9A12 1565 50.230 J G4DEZ	
CZECH REPUBLIC 02050855 OKIKRY JT6M 2122 50.230 J EB1EH 02060933 OKIKRY TR 266 50.230 W OE5MP 02260955 OKIHGM 599 JO6ORN>JO50 173 DK2EA	L
DENMARK 02021539 021DJJ JT6M MS 1086 50.230 02040921 021BNN J055>1082 971 50.225 02050918 020JD MS 1086 50.230 J G4ICO 02051542 020JD CQ JT6M 1084 50.230 02051543 021DJJ JT6M BO 2006 50.230 J O06AB 02091839 029KY 529 J059>J045 460 02091839 029KY 529 J059>J045 460 02091939 029KY 529 J059>J045 460 02091939 029KY 529 J059>J045 460 02091939 029KY 529 J059>J045 460 02101919 021BNN JT6M MS 1086 50.234 J G4PCI 02101919 021BNN JT6M MS 1086 50.235 J L24KK 02110911 020JD JT6M MS 1086 50.230 G4PCI 02151940 023ZW JT6M MS 1086 50.230 G4PCI 02151940 023ZW JT6M MS 1086 50.230 G4PCI 02151940 023ZW JT6M MS 1086 50.230 G4PCI 02190940 023ZW JT6M MS 1086 50.230 G4PCI 02190940 023ZW JT6M MS 1086 50.230 G4PCI 02190940 023ZW JT6M MS 1086 50.230 G4PCI 02190956 023ZW JT6M MS 1086 50.230 G4PCI 02191010 020JD JT6M MS 1086 50.230 G4PCI 02191010 020JD JT6M MS 1086 50.230 G4PCI 02191010 020JD JT6M MS 1086 50.230 G4PCI 02211815 020JD JT6M MS 1086 50.230 G4PCI 02221131 020JD JT6M MS 1086 50.230 G4PCI 02221131 020JD JT6M MS 1086 50.230 G4PCI 02221131 020JD JT6M MS 1086 50.230 G4PCI 02222113 0250MHZ JT6M MS 1086 50.230 G4PCI 02261016 020JD JT6M MS 1086 50.230 G4PCI	0
### CANCEL AND C20111945 GAPCI	JD JJJ J J J J J J J J J J J J J J J J

FAROE ISLANDS 02062153 0Y6SMC 55A 1087 598 50.035 GM0TGE	02261023 PA2V TROPO 596 50.099 W G4IGO 02261102 PA2V 539 J022>JN54 992 .099 I4LCK 0
FINLAND 02040914 OH8HTG CQ 765 50.230 LA8NK 02041915 OH7RJ 1264 MS 50.230 J OZIBNN 02062125 OH5RAC 519 KP30>JO80 1289 B SFØMLX 02062135 OH6MIX 765 50.230 LA8NK 02091920 OH5RAC MS KP30>JO80 1289 B SFØMLX 02092131 OH4LA PASI 1173 50.233 J SP9HWY 02191651 OH8HTG JT6M 765 50.230 J LA8NK	NORWAY 02011537 LATAJ JT6M 1537 50.230 GU8FBO 02022128 LA8NK CQ JT6M 1412 50.230 GM6AB 02040951 LA8NK CQ JT6M 1412 50.230 G4PCI 02051611 LATAJ CQ JT6M 1412 50.230 G4PCI 02061007 LA8AV JO5951071 1337 50.230 G4PCI 02071200 LA7AJ JT6M MS 1537 50.230 J GU8FBO 02071200 LA7AJ JT6M MS 1537 50.230 J GU8FBO 02092052 LA4HA J 595 CQ 16044 50.140 S57RR 02112207 LA8NK CQ JT6M 1412 50.230 G10AR
FRANCE 02041052 FIUKO CQ MS JT6M 983 50.230	POLAND
O2041207 OF200 AXEL 416 So. 230 J PE2PE	CAMPANIA
GREECE 02041747 SV3AQN 55 GIUSEPPE 1391 IK5RLP	02232111 CT1HZE IM57NH>IN73DM 740 EBIEHO 0 ROMANIA
GUERNSEY 02011512 GUBFBO CQ JT6M TR 265 .230 G4PCI 02031631 GUBFBO CQ 1366 50.230 G59F 02041058 GUBFBO CQ J76M 265 50.230 GGCHE 02041114 GUBFBO 1071PS 439 50.230 GGCHE 02041114 GUBFBO 1182 kM MS JT6M .230 J OZIBNN 02051052 GUBFBO CQ J76M 265 50.230 GCPCHE 02051503 GUBFBO CQ J76M 265 50.230 GCPCHE 02121316 GUBFBO CQ J76M 265 50.230 GCPCHE 021213163 GUBFBO CQ J76M 265 50.230 GCPCHE 0212131529 GUBFBO CQ J76M 265 50.230 GCPCHE 02131439 GUBFBO CQ J76M 265 50.230 GAPCI 02131439 GUBFBO CQ J76M 265 50.230 GAPCI 02131529 GUBFBO CQ J76M 1268 50.230 GAPCI 02131430 GUBFBO CQ J76M 128 50.230 GAPCI 02131529 GUBFBO S9-IO81 1820 50.230 JM30RL 02171049 GUBFBO CD J76M M128 50.230 JM30RL 02201153 GUBFBO 50M MS 265 50.230 JM30RL 02201153 GUBFBO 50M MS 265 50.230 JM30RL 02201153 GUBFBO 50M MS 265 50.230 JM3DEI 02201153 GUBFBO J76M MS 573 50.230 GM6TEO 02281508 GUBFBO J76M 265 50.230 G4PCI	COLOR COLO
SLE OF MANN C191212 GD0TEP 36 JT6M 464 50.230 GAPCI 02191218 GD0TEP JT6M TR IN89QK 585 J GU8FBO C191227 GD0TEP JT6M 721 50.230 GBFBO C191237 GD0TEP JT6M 1049 50.236 J DP2UQ C191235 GD0TEP JT6M 1049 50.236 J DP2UQ C191236 GD0TEP JT6M ANDY 1674 .236 J SP9HW C191442 GD0TEP JT6M 464 50.230 GAPCI C1921550 GD0TEP 36 JT6M 464 50.230 G4PCI C1921560 GD0TEP G0745HM76 2001 .236 EA7DUD C1921614 GD0TEP JT6M 1896 50.236 CTICBI C19216140 GD0TEP JT6M 1896 50.236 CTICBI C19216140 GD0TEP JT6M 1896 50.236 CTICBI C19216140 GD0TEP JT6M 1896 50.206 J C11DJJ C1221545 GD0TEP 36 JT6M 464 50.230 G4PCI C19216145 GD0TEP JR65A 1024 50.206 J C11DJJ C1221545 GD0TEP 36 JT6M 464 50.230 G4PCI C1221545 GD	02052318 YUICF JT65 EME >CM88 50.208 J K6QXY 02121759 YUICF 26 EME 1720 50.188 J G4IGO 02130026 YUICF -27 JT65A KN03 50.208 J W5UWB 00 SLOVAKIA 02011623 OM3ID 579 JN88ME>JN86FJ 203 9A12 SLOVENIA 02011210 S5TRR 559 779 50.100 IW0FFK 02011210 S5TRR 559 779 50.100 IW0FFK 02011947 S5IDI JT6M MS 1533 50.230 G4PCI
TTALY 02110856 I2KBD 779 02251902 I5MXX JT6M MS 927 50.230 G4PCI 02260931 IV3MPI MS 927 50.230 G4PCI 02260939 IV3MPI MS 927 50.230 J64IGO 02260949 IV3MPI J76M J090NH 1048 J 5P9HMY 02261106 I5MXX 927 50.230 G0GMS	02041949 S5101 JT6M MS 1533 50.230 G4PCI 02042030 S5101 1055 KM MS JT6M .230 J 021BNN 02051326 S5101 CQ JT6M 1053 50.230 ON6AB 02051340 S5101 CQ JT6M 222 50.230 OM5CW 02051453 S5101 CQ JT6M MS 1533 .230 G4PCI 02051537 S5101 JT6M 1084 50.233 J 0200D 02091813 S59F CQ JT6M 1533 50.230 G0CHE 02092018 S57RR NICE SIG 1604 50.140 LA4LN 02101572 S59F CQ JT6M 8 1533 50.230 G0CHE 02092018 C57RR NICE SIG 1604 50.140 LA4LN 02101572 S59F CQ JT6M 8 1533 50.230 G4PCI 02011572 S59F CQ JT6M 8 1533 50.230
02062150 JX7SIX 559 50.079 B GOREK 02062154 JX7SIX 559 IO88KI AUE 1377 B MODOP 02062205 JX7SIX 529 2245 50.079 B GOREI 02062210 JX7SIX 539 IO50>1090 2233 B G7RAU 02062213 JX7SIX 41 > IO530E 1924 .079 B EIZIP 0221835 JX7SIX 539>1075 1678 50.079 B MMOANW 02221907 JX7SIX 529>IO530E 1924 .079 B EIZIP	02110859 S59F JT6M 179
02050924 LX3DX CQ JT6M 719 50.230 0Z1DJJ 02050941 LX3DX JT6M 523 50.236 J DF2UQ NETHERLANDS 02041137 PE2PE JT6M 416 50.230 J DF2UQ 02051030 PA5JS CQ MS 50.230 EB1EHO 02120852 PA5JS JO21>IN73 1194 50.230 EB1EHO 02190909 PA5JS JT6M 596 50.230 GAPCI 02251707 PD0EBF 57001BS 301 55.000 GGUT 022660947 PA2V CONTEST 1779 50.099 ON4IQ	02051392 EBLEHO CQ JT6M MS 1122 .230 G4PCI 02120818 EA7DUD IN73DM>1M76 50.230 EBLEHO 02120915 EA7DUD CQ JT6M 50.230 G4PCI 02121342 EB1EHO CQ JT6M 50.230 G4PCI 0212051 EB1EHO CQ JT6M MS 1122 .230 G4PCI 0212051 EB1EHO CQ JT6M MS 1122 .230 G4PCI 02130913 EB1EHO CQ JT6M MS 1122 .230 G4PCI 02130913 EB1EHO CQ JT6M MS 1122 .230 G4PCI 02131416 EB1EHO CQ JT6M MS 1122 .230 G4PCI 02141821 EB1EHO CQ JT6M MS 1122 .230 G4PCI 02141821 EB1EHO CQ JT6M 1122 50.230 G4PCI 02141823 EB1EHO JT6M 1122 50.230 G4PCI 02141823 EB1EHO JT6M 1122 50.230 G4PCI 02151028 EA7DUD IM76>IO71 50.222 GW6TEO

02151131 EB1BMO JT6M IM76>IM73 333 02161931 EB1GQB CQ JT6M 1122 50.230 02161933 EB1EHO CQ JT6M 1122 50.230 02170810 EA7DUD IN730N-IM76 50.230 02170814 EB1EHO JT6M IM76>IM73 333 02171528 EB1GQB CQ 50.100 02171530 EB1GQB 559 IM82=IN94 274 02171936 EB1EHO CQ JT6M MS 1122 .230 02191249 EB1GQB JT6M 1122 50.237 022191249 EB1EHO JT6M 1122 50.237 0222035 EA7DUD JT6M IM73>IM86 379 02221716 EB1EHO JT6M MS 1122 50.230 0223104 EB1GQB JT6M MS 1122 50.230 02232027 EA7DUD IN730M>IM76 782 .230 02251011 EB1EHO JT6M MS 1122 50.230 02251014 EB1EMV JT6M MS 1122 50.230 02251014 EB1EMV JT6M MS 1122 50.230 02251014 EB1EMV JT6M MS 1122 50.230 02251030 EA7DUD IN73>IM76 778 50.235	G4PCI G4PCI EB1BMO ON4IQ G4PCI EB1EHO G4PCI G4PCI
SVALBARD 02062224 JW7SIX 559 IO80 3133 50.079 02261702 JW8AJA JAG LYSSNAR 2385	B G4IGO SM1TDE
02091815 SM3BEI CQ JT6M MS 1202 .220 02091852 SM6MVE CQ JT6M MS 1202 .230 02092022 SM6WET JT6M MS 1684 50.245 02092022 SM6WET 559-Nm65 1111 50.165 02092028 SM6WE J067-J090 893 50.233 02092120 SM6WE J068-J071 1379 .222 02092120 SM6WET J068-J071 1379 .222 02092141 SM6WET J068-J071 1379 .222 02092141 SM6WET J068-J071 1379 .222 0207171033 SM3BEI CQ JT6M MS 1202 .230 021711033 SM3BEI CQ JT6M MS 1202 .230 02171113 SM3BEI JT6M MS 1202 50.230	J OZ1DJJ G4PCI G4PCI J LZ4KK S57RR J SP9HWY GW6TEO J LA8NK G4PCI GU8FBO
02120914 HB9MFD 1038 50.230 02150831 HB9MFD JT6M MS 1038 50.230 02190910 HB9MFD JT6M TR 828 50.230 02190922 HB9QQ JT6M 828 50.230 02231604 HB9SIX 529 JN47QF>J050 382 02260957 HB9SIX 529 JN47QF>J050 382	J SP9HWY J OZ1DJJ J OZ1DJJ
UKRAINE 02041115 UT7UV JT6M 1868 50.235 02260807 UT4UO JT6M MS 1868 50.230 02260824 UT4UO JT6M MS 1868 50.230 02260844 UT4UO JT6M 1868 50.230 02260858 UT4UO FB BURSTS 1287 50.230 02280710 UT4UO MS JT6M 1868 50.230	J OZ1DJJ J SP9HWY J OZ1DJJ OZ1DJJ SP9HWY H OZ1DJJ
02051109 GW6TEO JT6M 924 50.226 02051544 GW9STEO LOQ JT6M 333 50.230 02060941 GWBTEO JT6M GORDON 1059 02061530 GW6TEO 1192KM 50.230 02061552 GW3LEW 1131KN 50.230 02071912 GW3LEW CQ JT6M 333 50.230 02091613 GW6TEO CQ JT6M 333 50.230 02110842 GW3GORL JT6M 1081>IM76 1675 02110851 GW3GTEO CQ JT6M 333 50.230 0211135 GW6TEO CQ JT6M 333 50.230 0211135 GW6TEO CQ JT6M 333 50.230 02131421 GW6TEO CQ JT6M 333 50.230 02131421 GW6TEO CQ JT6M 333 50.230	J GU8FBO J DF2DQ GOCHE J F1RLF J OZ1BNN G4PCI G4PCI J EA7DUD OZ0JD G4PCI J SP9HWY EB1EHO G4PCI G4PCI G4PCI G4PCI G4PCI G4PCI G4PCI G4PCI
Reports of North An	nerica
02030XXX KL7 DATA S1-5 >CM88 40.53 BARBADOS 02240235 8P9EN 4791 50.110	

th America

ALASKA 02030XXX KL7	DATA S1-5	>CM88 40.5	3 D	K6QXY
		50.11	.0	PP5JD
02060347 VE41	VHF 579 EN1			NOJK K9MII
	02030XXX KL7 BARBAD 02240235 8P99 CANADA 02060347 VE4V	BARBADOS 02240235 8P9EN 4791 CANADA, VE4 02060347 VE4VHF 579 ENI	02030XXX KL7 DATA S1-5 >CM88 40.5 BARBADOS 02240235 8P9EN 4791 50.11 CANADA, VE4 02060347 VE4VHF 579 EN19>EM17 1334	02030XXX KL7 DATA S1-5 > CM88 40.53 D BARBADOS 02240235 8P9EN 4791 50.110 CANADA, VE4

```
N6CW
K6QXY
KU6A
N3LQ
AC7XP
                                         KF7E
KO6WO
                                        K6QXY
K6QG
K6QG
K06WQ
```

COSTA RICA
02232256 TI5XP 5725 50.110 PP5AR

DOMINICAN REPUBLIC 02222315 HISTEJ JT6M (K7BV) 3063

N5BO

MARTINIQUE 02220058 FM5JC CQ 4951 50.110 02230049 FM5JC 59 >GG46 4362 50.110	PP5AR PY5EW	02190420 KG4RMD 53>EL99 1541 50.140 W2RAC 02220146 W4TAA EL87>EM60 512 50.125 H N5B0 02251442 W4??? EM84>FN32 1242 50.125 KITTT 02280045 K4RRS 559 EL98>EL98	02160207 N5DGR 59 EM10>DM15 50.130 WA6TF2 02160217 N5DRG EM10>DM12 1906 50.130 N6CW 02162348 KD5PBR S7 EM045FM03 50.125 N14AOO 02170016 N5B0 59 EM60>EM60>EM60
MEXICO, XE1 02020230 XE1BEF >CM88 02212111 XE1KK 437CHIRPY >RF70	K6QXY B ZL2TPY	United States, W5 01310050 W5s NM >CM88 02012022 WASUFH 41 EL19>RM60 968 N5B0	02170018 WBSKIA S5 EM13>FM03 50.125 KI4AOQ 02170021 KDSUVA S5 EM12>FM03 50.125 KI4AOQ 02170038 WBSKIA EM13 STEVE 50.125 W W4GCB 02170106 KSDNL 59 EM15>EM60 50.135 KW4RZ
MEXICO, XE2 02052134 XE2TH DM30>CN96 50.125 02052250 XE2OR DL98 2274 50.125 02052252 XE2OR 59 >DM15 50.125 020523345 XE2OR 59 >DM16 50.125 02052345 XE2OR 2274 50.125 0206032 XE2TH 1201 50.125 02060205 XE2MX DM11>EM02 1698 50.125 02060205 XE2MX DM11>CN85 1640 50.110 02080033 XE2TP 55 DM30>EM17 1664 02080338 XE2MX DM11>CN85 1640 50.135	W7FHI N6CW WA6TFZ WA6FEZ WA6FZL AE5B KF7E WORLL/7 NOJK WORLI/7 KE7DJL KB4XK	United States, W5 01310050 W5s NM >CM88 02012022 WASUFH 41 EL19>EM60 968 N5B0 02020039 WSRP DM91>EM60 1337 50.074 B N5B0 020200148 KD5PPP DM63>EM60 1911 .155 02020105 K5ESKD EL19>EM60 968 50.125 02020105 W5WRL DM92>DM04 1498 50.135 02020117 W5RVB EM04>DM04 1498 50.135 02020117 W5RVB EM04>DM04 1829 50.124 02020134 W5JVH EL09>EM60 1160 50.127 N5B0 02020117 W5RVB EM04>DM04 1698 50.125 02020218 N5RV5 59>EL15>EM56 1618 02020226 W5JVH EL065EM60 1127 50.128 02020238 N5RV5 EL15>EM60 1127 50.128 020202314 W5WVO DM65>DM04 1097 50.135 02030539 NJ5X 55 EM30>EM42 292 .125 0203137 W5/W9XQ 57 >EL17 50.125 S W5UWB 02032140 W5WVO DM65>DM65>EL17 50.125 S W5UWB 02032234 N5MOV 59 DM65>EL17 50.125 S W5UWB 02032238 K5AB S7>DM25 1589 50.060 B K7EED 02032330 N5K9V 55 DM61>EL17 50.155 S W5UWB 02032323 N5FWV 55 DM61>EL17 50.155 S W5UWB 02032330 N5RSPV 55 DM61>EL17 50.155 S W5UWB 02032330 W5ZF EM12>DM65 928 50.125 02032330 W5ZF EM12>DM65 928 50.125 02032330 N5RGV EL15>EM17 1334 50.125 02032330 N5RGV EL15>EM17 1334 50.125 02032331 N5KGV EL15>EM17 134 50.125 02032335 N5RGV EL15>EM17 134 50.125 02032335 N5RGV EL15>EM17 134 50.125 02032335 N5RGV EL15>EM17 134 50.125 0203235 N5KGV EL15>EM17 134 50.125 02040018 W5/KBTK DM62>EN48 1854 02040010 KD5PPP 59 DM63>EM18 1839 02040010 KD5PPP 59 DM63>EM18 1839 02040100 KD5PPP 59 DM63>EM18 1839 02040100 KD5PPP 59 DM63>EM18 1839	02170108 W502I 59 EM00>DN70 50.122 H K0GU 02170113 WBSLIL EM40>DN70 1681 .060 B K0GU 02170119 WBSNRI 59 EM22>DM43 50.125 AC7XP 02170121 WSRP 599 DM31>DM43 50.074 B AC7XP 02170149 WSTDN. WBSNRI EM22>EM60 .125 KW4RZ 02170154 N5B0 52 EM60>EM12 K56HX 02170210 KDSMQL 59 DM61>DM12 K66IYN 02170226 N5WPV 55 DM61>DM12 K66IYN 02170226 N5WPV 55 DM61>DM12 50.135 K66IYN 02170246 W50XX EM00>DM12 50.135 K66IYN 02170246 W50XX EM00>DM12 50.135 K66IYN 02170333 W5/W3X0 59 EM00>DM12 50.135 K66IYN 02171704 W5/K82MEX 59 DM72>EM22 .125 WB5NRI 02171704 W5/K82MEX 59 DM72>EM22 .125 WB5NRI 02171704 W5/K82MEX 59 DM72>EM22 .125 KF6PLG 02200126 K5B2M 55 EM18>DM12 K66IYN
02150256 XE2AT DL81>EM12 50.125 02150258 XE2AT 294 50.125 02150307 XE2OR 1922 50.100 02150313 XE2OR 59 DL98>DM33 50.125 02150314 XE2OR 59 DL98>DM43 50.125 02150332 XE2AT >DN40 UT 02150341 XE2OR DL98, XE2AT DL81 .125 02160256 XE2AT DL81>EM14 1559 50.125	WA8ZBT K5RGE K9WZB NR5O ACTXP H KETDJD W W7RV W5IF	02032232 KD5MQL 59 DM61>EL17 50.175 S W5UWB 02032300-K5AB, W5s TX,OK,LA > CM88 B K6QXY 02032307 N5WPV 55 DM61>EL17 50.150 S W5UWB 02032325 W52F NM 1139 50.125 N0UK 02032325 W52F EM12>DM65 928 50.125 AD5VJ 02032337 AD5VJ 02032337 AD5VJ 50.125 NOUK 02040018 W5KH6ITY EM12>EL15 778.120 AD5VJ 02040018 W5KH6ITY EM12>EL15 778.120 AD5VJ	02200157 WSRP 599 DM91>DM43 50.074 B AC7XP 02200201 K5AB 599 EM01>DM43 50.060 B AC7XP 02200202 K5BZM H 2337 50.070 B AC7XP 02200202 WSRN 579 EM13>EM43 50.070 B AC7XP 02200205 K5DDH 59 EM01>DM43 50.125 K06TAQ 02200205 K5DJW EL29>DM43 50.140 K06TAQ 02211542 WSOZI MS 294 50.110 S XEAT 02212342 NSSIX/M 41 EM43>EM60 503 NSBO 02220302 NSBO EM60>EM89 1064 50.125 W28D 02221719 K5AB 529 > DM16 B K06MU
MEXICO, XE3 02010239 XE3ARV CW 2588 50.125	K2BA	02040053 W5/K9ITK DM62>EN43 1854 KA9FOX 02040057 W5/K9ITK DM62>EN44 1921 K9MU 02040100 KD5PPP 59 DM63>EN44 1839 K9MU	02232345 W5/W62I 441 EM26>EM60 996 N5BO 02261442 K5AB S3 >DM65RD B N5JEH
PUERTO RICO 02240049 WP3UX 238 50.110 02250502 WP3UX FK68>GI64 3453 50.110 02260139 KP3A 5571 50.130 02260141 WP4LUU FK68 5571 50.130 02270004 WP4LUU 51>GG67JI 5054 .120 02270005 KP4YI 52/51>GG67JI 5054 02270051 WP3UX WILLEM 238 50.110	KP2HC PR8ZX PP5JD PP5JD ZZ2TUA ZZ2TUA KP2HC	02040128 W5ZF DM65>CN85 1745 50.125 W0RLI/7 02040203 WB5KIA EM13>CN85 2581 .140 W0RLI	United States, W6 02020059 KGGFOF DM04>EM02 1864 .125 AESB 02020144 WA6TFZ DM15 1764 50.096 KSGM 02020148 KGPHE 59 DM13CP>EL87 3383 WIGUD 02020150 KGGMU DM16>EM02 1705 50.150 AESB 02020206 KGGMU DM16>EM08 1774 50.155 W NOJK 02020206 KGGMU DM16>EM12 1881 50.160 NOSM 02030219 KGGHUR DM15-EM12 1881 50.160 WORLI 02030219 KEGHER DM13>CNB5 1428 .135 WORLI 02030224 W6/WBZWIK DM04>CNB5 1269 WORLI
ST BARTHELEMY 02050219 FJ5DX 5331 02052215 FJ5DX PHIL 212 02070054 FJ5DX CQ 5331 50.110	PY5HOT KP2HC PP5AR	02040232 AASCH EM955/CN85 2748 50.130 WORLI 02040233 KDSPPP 59 DM631D5N50BQ 1756 K9CT 02040251 WSWVO DM655/CN85 1745 50.135 WORLI/7 02040330 K5AB 529 EM015/EN44 1604 B K9MU 02042110 KMSES EM835/EM25 1120 50.257 AG4ZE	02031800-NGNS TRO RS HORT ES >CM88 B K6CXY 02032318 WAGYGB 53 DM04>EL17 50.150 S WSUWB 02032322 K6CXY EME 8609 50.205 G4IGO 02032334 K6CXY -25 JT65A EME 50.205 G4PCI 02040011 WAGLIE CM97>EM55 2854 .125 W4JQQ
ST KITTS & NEVIS IS. 02220318 V44KAI 529>GG46 4740 50.055 02230028 V44KAI 559>GG46 4740 50.055 02270014 V44KAI 519 >FK68 437 50.055 02270043 V44BAI FK77 212 50.056 02281911 V44KAI FK87>FK77 212 50.056	B PYSEW B PYSEW B WP3UX B KP2HC B KP2HC	02051353 KSCZD EM835EM32 938 50.265 AGG4E 02052354 KSAB K75DM25 1589 50.060 B K7FED 0205XXXX KSAB, W5s NM > CM88 B K6QXY 02060009 W5WVO DM65>EM79 1985 50.130 WE9M 02060017 K5DYY EL07>CN85 2912 50.135 W0RLI/7 02060024 KC5NOA EL085CN85 2828 .150 W0RLI/7 0206013 KSAB EMIO>CN85 2802 50.060 B W0RLI/7 02060113 N5HMH EM32>EN44 1345 50.125 K9MU	02040026 WB6ZEJ DM645CN85 1824 .125 WORLI 02040033 K6GC CM985EM17 2099 50.125 NO.TK 02040043 WA6TFZ DM15>EM17 1797 .130 NO.JK 02040126 K6LIG DM12>EM45 26842 .145 WSZN 02040130 WA6KLK CM895EM45 2842 .145 WSZN 02040149 K6MYC DM07>EM43 2446 50.145 KA9FCX 02040403 W6CGH DM13>CN85 1428 50.125 WORLI/ 02040405 KQ6MU DM16>CN85 1119 50.125 WORLI/
VIRGIN IS. 02051940 KP2HC 57 FK68 238 50.110 02092348 KP2BH 238 50.110 02250056 KP2HC BRAIN 238 50.110 02270050 KP2HC BRAIN 238 50.110	WP4NIX W WP3UX W WP3UX W WP3UX	02060114 W02F/M DM655CN95 1745 .125 W0RLI/7 02060128 W52F/M DM655EM17 NM-KS 920 NDLD 02060224 K5AB S7>DM25 1589 50.060 B K7FED 02060319 K5DYY 57 EL07>EN44 2019 K9MU 02060402 W5/KBZMEZ DM72>CN91 1733 NT6K 02061643 K5AB 529 EM01>EN44 1604 B K9MU 02061646 W5CMP 55 EM12>EN44 1431 K9MU 02072353 W5RVB 1337 50.130 K7SP	02040418 N6NB DM05>CN85 1161 50.068 B WORLI/ 02040419 K6FV CM87>CN85 889 50.069 B WORLI/ 02040420 K6GXO DM04>CN85 1269 50.125 WORLI/ 02040459 K6GOOX CM878CN85 778 50.130 WORLI 02040525 WAGLIE CM96>CN85 1014 145 WORLI 02040547 N6TU CM97>CN85 904 50.130 WORLI/ 02051925 K6GMU 55 DM16>DN05 1014 W7BX 02051945 K6ZTP 55 DM03>DN05 1334 W7BX
United States, W1 2061711 Walt SS FN43>EM66 50.125 22121454 WRZEF FN42>EM83 1448 50.265 02170036 KIBO EM10>EM95 1589 50.125 02191423 KIPJW FN34>EM84 1401 50.125 02191432 W1/WAZSPL LONG MS BURN 1987 02240227 N1DVL 662 50.126 02281754 WIJJ EME -24 5404 50.206	K4AL J MOBCG AG4ZE AASYU W4WA W4WA KA3DQD K1TTT J PE1BTX	02040216 MS/W6JKV 20 EMIOJONN14 1923 W6KK 02040224 WSGMC EMIJS>CN85 2448 50.125 W0RLI/7 02040226 WBSAFY EM045CN85 2368 .130 W0RLI 02040229 WSWVO 59 DM655ENS50 1602 02040229 WSWVO 59 DM655ENS50 1602 02040231 KDSPPP 5X7 EM79>DM63 2069 W8IF 02040233 KDSPPP 5X7 EM79>DM63 2069 W8IF 02040233 KDSPPP 5X9 DM631DSENS0BQ 1756 02040233 KDSPPP 5B DM63IDSENS0BQ 1756 02040231 KDSPPP 5B DM63IDSENS0BQ 1756 02040231 KDSPPP 5B DM63IDSENS0BQ 1756 02040233 KSSB 529 EM012ENH4 1604 02042110 KMSES EM832EM25 1120 50.257 02051353 KSC2D EM832EM32 938 50.265 02052354 KSAB S7>DM25 1589 0206009 NSWVO DM65>EM79 1985 50.130 02060013 KSDB VBS NM 02060013 KSDBY EL07>CN85 2912 50.135 02060014 KSDBY EL07>CN85 2912 50.135 02060013 KSAB EM10>CN85 2802 50.060 0206011 NSDBY EL07>CN85 2802 50.060 0206011 NSDBY EL07>CN85 2802 50.060 0206011 NSDBY EL07>CN85 2802 50.060 0206011 NSDBY EN32ENH4 1345 50.125 02060124 KSAB S7>DM25 1589 0206014 WSZF/M DM65>EM7 1745 .125 0206013 WSKNV 1745 .125 0206014 WSZF/M DM65>EM7 1745 .125 0206014 WSZF/M DM65>EM7 1745 .125 0208048 KSAB 599 1337 0208048 KSAB 599 1337 02080048 KSAB 599 1337 02080013 WS NM, TX 02080213 WSWVO S9 DM65>CN85 1745 0.100 02080213 WSWVO S9 DM65>CN85 1745 0.100 02080213 WSWVO S9 DM65>CN85 1745 0.100 02090418 WS/KBZMEZ NM 000041 WSFKL WWO S9 DM65>CN85 1745 0.100 02090418 WS/KBZMEZ NM 000041 WSFKL WWO S9 DM65>CN85 1745 0.100 00041 WSFKL WWO S9 D	02051952 MOSTAP 33 DM03-DN05 1334 W7BX 02052210 KCGUIX DM142EM02 1681 .125 AE5B 0205XXXX N6NB > CM88 B K6CXY 02060004 KOGMU DM16-PEL29 2187 50.125 KE5DFA 02060043 K6CXO 55-DM04 3641 50.155 W4GIB 02060155 WB6KLD DW05-CN85 1161 .125 W0RLI 02060118 W6JRA DM13-EL87 W W4TAA 02060132 NT6K WEAK CN91>CN85RL .175 K17JA 02060138 NT6K NC91>CN95 CN85 S0.135 K06WQ 02060148 WB6FFC CN82 555 50.135 K06WQ 02060209 KG6CQW CM88 3409 50.140 W8D
United States, W2 02041859 AC2AA 391 50.125 02080242 K2AOP 58 DM69 2689 50.125 02121539 KEZEB CQ CW 391 50.125 02132307 K2YYF 53 EM12>EM79 1328 02140017 W2GFF 2512 50.091 02232332 KEZEB FN32 274 50.125	KITTT WEERI KITTT WEIF NSBO KITTT	02090448 W5WVO DM65 2672 50.125 W3AB 02100149 W5EF/M DM65>EM02 808 50.125 AE5B 02120024 KE5AVC 58>FM16 2140 50.140 W4RVZ 02120036-KSAB, W5s TX,NM >CM88 B K6QXY 02120039 W5WVO 57 DM65>ELITAX 50.135 W5UWB 02132253 KISTE EM04>EM60 1208 50.125 N5BO 02132253 KISTE EM04>EM60 1208 50.125 W8IF 02132300 KISTE 5X2 EM04 1557 50.125 W8IF 02132300 W5RVB 56 EM04>EM79 1617 W8IF	02060229 KG6ASY 51 CM88>EM39 2582 NOPB 02060234 WB6KWL 55 CM87>EM89 3458 WZ8D 02060240 K6FV CM87>CM87>EM89 3458 WZ8D 02060240 K6FV CM87>CM85 889 50.069 B WORLI/ 02060255 N6IL CM86>CN85 1000 50.135 WORLI/ 02060302 KG6OQK CM88>CN85 778 50.145 WORLI 02060306 WY6DX 559 DM04>CN89 1699 VE7CA 02060310 NT6K CN91 476 50.132 KO6WQ 02060310 NT6K CN91 476 50.132 KO6WQ 02060311 K6FV 579 CM87>DM37 50.069 B KD7WFJ
United States, W3 02020321 KB3D 3943 50.130 02121337 N3RN FN11>EM83 1034 50.265 02150056 W3CMP FN10>EM89 522 50.145 02170053 N3DB CQ 662 50.125 02171423 KB3HJA 662 50.125 02210154 AB3BK 529 FN10>EM60 1431	N6HC AG4ZE WZ8D WIJJ KITTT H N5BO	02132344 NSHMH 1753 50.125 N4BH 02132345 KOSDSL 1753 50.125 N4BH 02132346 KOSDSL 1753 50.125 N4BH 02132351 WBSSCN 1753 50.125 N4BH 02132352 WSZEB 1753 50.125 N4BH 02132352 WSZEB 1753 50.125 N4BH 02132354 WSSSG EM11>EM60 959 50.140 NSBO 02132358 KESFWT EM46>EM60 763 50.125 NSBO 02140008 KDSPBR EM83>EM04 1477 .128 AG42E AG42	02080108 W6CAP DM14>EM17 1825 50.127 C NOJK 02080134 W6CAP 1579 50.125 W0EB 02080137 KOGMU 1579 50.145 W0EB 02080213 W6GTA DM13>EM17 1860 50.098 NOJK 02080252 KOGMU 2337 50.145 NORQ 02080228 KGGIYA DM12>EM17 1860 50.098 NOJK 02080252 KOGMU DM16>EM13 1848 50.145 NORQ 02080328 KGGIYA DM12>EM13 2026 130 NORLI 02080329 KGGDHQ DM04>EM13 2026 130 NORLI 02080329 KGGDHQ DM04
United States, W 4 2010211 KP4N 1647 50.230 202011531 K14GDD 59 EL95>EM89 1567 202031335 K14JRN FM04>FN43 1214 50.125 202032300-W4s TN >CM88 20204013X W4s FL 202040230 K04ESV EL87>CM87 3879 .125 202040306 K04ESV EL87>CM87 3879 .126 202040336 W4/W3H EL89>EM10 2271 .050 202040337 W4AHO EL98>EM10 1753 50.077 202040339 W4CHA EL88>EM10 1752 50.080 202061840 W4/W6SJR 59 EM56>DM54 1820 202061840 W4/W6SJR 59 EM56>DM54 1820 202080158 N4LI = EM55>DM33 2204 50.140 202090228 K4MSG EM83>FM19 855 50.265 20209330 K14BWW EM83>FM05 428 50.260 20209308 K14BWW EM83>FM05 428 50.260 20123305 KG4PSR 43 EM65>EM79 478 2140140 NGCC EM80>EM60 383 50.125 2140212 K04HLG 559 EM73>DN70 173 50.060 2012160137 KE4WBO EL96>EM60 735 50.096	K2HAL WZ8D WA1T K6QXY K6QXY K72D KB6NAN B K5AB B K5AB B K5AB W4G1B W4G1B K72D AG42E AG42E W81F N5BO B K0GU B K0GU N5BO	02090418 W5/KB2MEZ NM 50.130	02291530 K6FV M/S CM87>DM16 50.069 B KGCMU 02100232 N6NB DM05>EM02 1869 50.068 B R25B 02120035 K6LIG DM12>EM02 1685 50.125 825B 02120036 W6s DM12>CM88 C0120039 K6ZTP DM03>EM02 1865 50.140 AE5B 02120042 K6LIG 59 DM12>EL17AX 50.125 W5UWB 02120014 K6LIG DM12>EM13 1865 50.125 W5UWB 02120107 K6LIG DM12>EM15>EM02 1689 .130 AE5B 02150204 WA6TFZ DM15>EM02 1689 .130 AE5B 02150204 WA6TFZ DM15>EM02 50.100 WB5NRI 02150224 W6EMC DM13>EM02 50.107 WB5NRI 02150224 W6EMC DM13>EM22 50.127 WB5NRI 02200105 K6FV 599 CM87>DM43 50.125 WB5NRI 02200108 K6GUMW 2337 50.125 WB5NRI 02200108 K6GSTU DM04 50.125 WB5NRI 0220034 K6FV 599 CM87>DM43 50.069 B AC7XP
02170044 KE4MBG 35 GRARAM 1544 .125 02170048 K4QV 59 EM96>EM22 50.180 02170056 KD4ESV 53 >EM25DI 50.125 02170155 KD4ESV EL97>EM02 1817 .125 02181831 KD4TID 57 EM96>EM76	K9MU W5TDN KM5ES AE5B N4FLM	02150315 KSAB 579 EM01>DM43 50.060 B AC7XP 02150345 WSRP 559 DM91>DM40 50.074 B AC7XP 02160056 WSRP DM91>EM60 1337 50.074 B NSBO 02160139 WSRP 529 >DM16 50.074 B AC7XP 02160147 WSRP, KSAB >DM43 50.074 B AC7XP	Olilica Sizies, W / 01310050 WTs AZ >CM88 02020141 KTSP DM33>EM02 1309 50.140 AE5B 02020230 W7s AZ >CM88 K6QXY 02020246 K7SP DM33>EM12 1494 50.125 N5WD

02020327 KE7AZN DM42>DM13 570 50.130 N6HC	02052241 K9WZB DM24>EM02 1498 50.145 AE5B	West Australia-VK6
02030120 N7LT DN45>EM02 1774 50.074 B AE5B	02060004 K9W2B 53 DM24>EM79 2707 W8IF	02060230 VK6RBU 26 50.305 B VK5UBC
02030136 WA7GCS CN85>DM04 1269 .150 N3LQ/6	02052241 K9WZB DM24>EM02 1498 50.145 02052338 K9WZB DM24>EL29 1962 50.125 02060004 K9WZB 53 DM24>EM79 2707 02060034 K9WZB DM24>CM85 1398 50.125 02060133 KBSWL, W9/K2DRH 59>EN19 .125 02080324 K9WZB DM24>CN85 1398 50.135 02081629 W9WW EM69>EN80 358 50.669 B WADB 02111350 KB9WL EM57>EM89 567 50.130 02113518 NSHUE DM11 1424 50.135 02150154 KB9WL EM11 1424 50.135 02150154 KB9WLM EN40>EM89 690 50.145 02170105 WR9L EM61>EL89 1381 50.076 B W3HB 02191304 WB9F EM83>EM57 701 50.260 02251440 W9/KZDRH 57 EN41>EN19 .125 VE4AMU Linited States W/A	02060328 VK6RPH 569>PF95GA -0550 B SWL 02060344 VK6JJ 57 W/VK5URC >PF95GA H SWL
02030155 KA7EGR CN88>DM25 1587 .075 B K7FED	02081629 W9VW EM69>EN80 358 50.069 B NADB	02060347 VK6JJ 59 50.140 VK5UBC
02030210 K7MXA DEBBIE CN73 50.125 K7ZD	02132318 N9XHU EM11 1424 50.135 W5SSG	02060509 VK6 QSB >QF32VE VK3DUT
02030219 WE7ETR DM43>EM02 1123 .125 AE5B	02170105 WR9L EN61>EL89 1381 50.076 B W3HH	Australia-Tasmania-VK7
02030XXX WA/X, W/S AZ >CM88 B R6QXI 02032204 K7NN 59 DM42>EL17 50.145 S W5UWB	022191304 WB9F EM83>EM57 701 50.260 0223123 K9KNW 41 EL96>EM60 735 .265 02251440 W9/K2DRH 57 EN41>EN19 .125 United States, W0 02020025 KOEC DM69>EM60 2071 50.069 02020103 KOCIY EM25>DM04 2183 50.125 02020220 WJOF 59 DM45>EM42 1869 .180 02020229 KUOC EM07>DM04 1825 50.080 B NSLO 02030139 WOMTK DM59>EM02 1188 50.065 B AE5B 020303XXX WOIJR, WOMTK, WOS CO >CM88 0203032300 KBOHH 53 EM06>EL17 50.150 S WSUWB 02032319 WOEPK/M 53 >EL17 50.150 S WSUWB 020323219 KUOC BM 59 DM79>EL17 50.150 S WSUWB 02032324 KCOUWA 59 DM79>EL17 50.150 S WSUWB 02032325 WO/WB2IVN 56 DN60>EL17 50.150 S WSUWB 02032326 KOAXE DM79>EM17 709 50.145 02040000 NOILI, KDEC, WOS ND >CM88 B K6QXY 02040002 KOCIY EM25>CM97 2326 50.125 02040002 NOVR DM78>EM17 709 50.145 02040105 NOPB 56 EM33>EL17 50.165 S WSUWB 02040105 NOPB 56 EM33>EL17 50.165 S WSUWB 02040107 WORLD 53 DN70>EL17 50.165 S WSUWB 02040107 WORLD 52 CN85>EL17 50.165 S WSUWB 020401017 WORLD 53 DN70>EL17 50.165 S WSUWB 020401017 WORLD 52 CN85>EL17 50.165 S WSUWB 020401017 WORLD 53 DN70>EL17	02090241 VK7RST 539>RE66 B ZL3NW
02032248 WAYADK 59 DN31>EL17 50.150 S W5UWB 02032252 W7CI 55 DM41>EL17 50.150 S W5UWB	UZZSI440 W9/NZURH S/ EN41>EN41 125 VE4AMU	Australia-Northern Terr.
02032255 W7CI FAI DM41>EL17 144.200 C W5UWB 02032256 W7/K3TYE DM42>EM17 1389 .125 NOJK	United States, WO	02110309 VK8RAS S9 50.046 B VK5UBC 02140546 VK8RAS 569 >PF95GA -0625 B SWL
02032316 K7FED 54 DM25>EL17 50.150 S W5UWB 02032320 KD7ETC 55 DM54>EM17 1128 N0JK	02020103 KOCIY EM25>DM04 2183 50.125 N3LQ/6	NEW CALEBOARA
02032320 KE7FPK 59 DN51>EL17 50.150 S W5UWB 02032332 NE7X 1337 50.125 AD5VJ	02020220 WOOF 39 DM45>EM42 1869 .180 NSASA 02020229 KOUO EM07>DM04 1825 50.080 B N3LQ	NEW CALEDONIA 02112251 FK8SIX 559 >0F56NE 50.0797 B VK2XO
02032337 NE7X DM43>EM17 1341 50.125 NOJK 02040000~W7s OR >CM88 K6QXY	02030139 WOMTK DM59>EM02 1188 50.065 B AE5B 02030XXX W0IJR, W0MTK, W0s CO >CM88 K6QXY	02142241 FK8SIX 529 >RE78KV B ZL2FNF 02142310 FK8SIX S9+
02040030 K7TOP DM43>CN85 1681 50.125 W0RLI/7 02040115 KE7AZN DM42>CN85 1774 .125 W0RLI	02032300~K0UO, W0MTK, W0IJR, W0s CO B K6QXY 02032306 KB0HH 53 EM06>EL17 50.150 S W5UWB	PIETER CERT A A PART
02040138 W7IJN DM79 1145 50.140 W5ZN 02040153 KE7DJD/M DM48>CN85 1258 W0RLI	02032319 W0EPK/M 53 >EL17 50.150 S W5UWB 02032322 KCOMEA 59 DM79>EL17 50.150 S W5UWB	NEW ZEALAND 02040000-2L TVVID S1-3 45.24/.25/.26 V K60XY
020401XX W7s WA,OR >CM88 K6QXY 02040215 W7/WR6RTI DM43>EM17 1341 NOJK	02032324 KCOUYK 59 DM79>EL17 50.150 S W5UWB 02032325 W0/WB2IVN 56 DN60>EL17 .150 S W5UWB	02080328 ZL TV S4 -0415 45.25/50.750 T PF95GA
02040242 WA7TUE 55 CN94>EM17 2149 NOJK	02032326 KOAXE 56 DM79>EL17 50.150 S W5UWB 02032343 KOAXE DM79GK>EM12 1082 .125 AD5VJ	02260224 ZLTV >0504 >QF56 45.2426 V VK2XQ
02040254 W7/W0RLI 55 CN85>EM17 2327 NOJK	02040000~NOLL,KOEC,WOs ND >CM88 B K6QXY 02040007 W0IJR DM79>DM04 1359 50.065 B N3LO/6	02260714 ZL TV S9 45.24/50.74 T VK3DUT
02052319 N7SKT DM33>EL29 1760 50.125 KE5DFA	02040022 KOCIY EM25>CM97 2326 50.125 K3UG/6 02040052 NOVR DM78>EM17 709 50.145 NOJK	02280338 ZL TV S3-5 >PM85 45.24/.26 V JA2DDN
02060027 KD7ZAL DM26>CN85 1203 .125 WORLI	02040104 NOHU 53 DN70>EL17 50.145 S W5UWB 02040105 NOPB 56 EM39>EL17 50.165 S W5UWB	Poporto of Couth America
02060046 NM7D DM37>CN85 1216 50.078 B WORLI	02040106 KOAXE DM79>EM17 730 50.155 NOJK	neports of South America
02060105 RB/Bgh CN0/ 1971 50.125 ROOMQ	02040127 WA0KBZ EM83>EM48 908 50.265 AG4ZE	ARGENTINA
02060117 AB701 DN415CN85 1063 50.140 WORL177 02060120 N7LT, WA7X, W7s DN41, ID >CM88 B K6QXY	02040131 NOVR DM78>CN85 1673 50.145 WORLI/7	02030026 LU7DZ 1158 50.110 PP5AR 02030032 LU5EGY 1158 50.110 PP5AR
02060122 W/CE CN8/ 19/1 50.128 KO6WQ 02060135 KE7AW CN86 1874 50.125 KO6WQ	02040135 KOVUY 1579 50.125 AD6WL	02030127 LU7HCS 1158 50.110 PP5AR 02051808 LU1WDY 599 50.071 B LU9MRG
02060137 KE7AUW CN86 1874 50.125 KO6WQ 02060143 W7HW CN84 1687 50.175 KO6WQ	02040259 NOLL EM09>DM25 1477 50.077 B K7FED	02090007 LU8HBX 1158 50.110 PR8ZX 02172111 LU6WDH 59>GF15 183 50.110 CX4CR
02060202 K7ZOX 59 DN17>CM87 50.125 H K6FV 02060203 KE7AZN DM42>EM89 2623 .140 WZ8D	02040325 W013R DM/9 1614 50.065 B W0RL1/7 02040331 W0MTK DM59 50.065 B W0RL1/7	02191913 LU8EMH 59 FF94>GG53 1517 PP5XX
02060204 KE7AZN 55 DM42>EM39 1791 NOPB 02060206 NM7D DM37>CN85 1216 50.078 B WORLI	02040332 K0EC DM69 171 50.069 B WORLI 02040333 WV0H DM79>CN85 1614 50.135 WORLI	02220255 LU5EGY 519 1158 50.038 B PR8ZX
02060219 KA7BGR S8>DM25 481 50.075 B K7FED 02060233 KE7AUW DAVE CN86>CM98 904 K6QG	02040357 K0UO EM07 567 50.080 B WORLI 02040731 KC0RWC DN70>DM04 1401 .125 N3LQ/6	02240101 LU3EE W/ FJ5DX 1158 50.110 PP5JD 02240151 LW3EW2 44>FK60NM 5073 110 VV5TAT
02060239 KE7BCT JIM CN85>CM98 795 K6QG 02060241 W7HW DM33>CN84 1494 50.170 WW7B	0205XXXX WOMTK >CM88 B K6QXY 02060029 K0CIY EM25>DM43 1481 50.125 KF7E	02260014 LUSEGY 1158 50.039 B PR8ZX 02260016 LUZDKX 53 FF945C164 3630 PR8ZX
02060244 W7/W0RLI DM33>CN85 1583 WW7B 02060247 W7CE CLAY CN87>DM08 1635 K6QG	02060111 W01JR DM79>CN85 1614 50.065 B W0RLI/7 02060115 KCOMEA 59>EM79 50.150 W4GIB	02260026 LW4DIR GF05>GI64 3452 .110 PR8ZX
02060259 N7CNH CN84 1687 50.150 KO6WQ 02060303 W7AIT CM97>CN89 1343 50.099 VE7CA	02060120 WOMTK, WOIJR, WOS CO >CM88 B K6QXY 02060309 KOVUY 57 >CM87 50.125 H K6FV	02260045 LU8EMH FF94>GI64 3630 .110 PR8ZX
02060318 K70OS CN73 1699 50.160 K06WQ 02060444 N7SQN DM41>CN85 1869 50.125 W0RLI/7	02060321 KC0UYK 59 DM79>EN44 1281 K9MU 02080113 K0UO >CM88 B K6QXY	BRAZIL
02080022 K7SP DM33>EM15 1337 50.140 KX5RW 02080057 K7SP 57>EM56 3088 50.130 KF40DI	02080228 WOMTK , WOIJR/B 1579 50.065 B N6HY 02080241 KCORWC DN70 1587 50.125 KO6WQ	02220055 PP5AR CQ 4951 50.110 FM5JC
02080141 KD7WPJ 1145 50.121 W0EB 02080152 K7LAS 1145 50.130 W0EB	02080245 KC0RWC 1579 50.300 N6HY 02080251 K0UO EM07SA 2111 50.079 B N6HY	02220306 PR8ZX 59+ >GG46 590 50.110 PY5EW
02080248 K7ZD DM33>DM69 855 50.125 W8ERI	02080259 K0AXE DM79>DM33 977 50.125 K7ZD 02080317 K0ETD DM42>CN85 1774 50.148 W0RLT	02220314 PY3ARZ 57 GI64>GF38 2957 PR8ZX
02090101 NM7D DM37>EM02 1389 50.080 B AE5B	02080339 WOLD DM78>DM12 KG6IYN 02101304 KOVUY 59 FM48>FM89 699 125 W28D	02230035 PP5AR RENATO GG51 4951 .110 FM5JC
02100155 W7SSB/M DM34>EM02 1315 .125 AE5B	02111345 KOVUY EM48 699 50.130 WZ8D	02232300 PPSAR 53 5571 50.110 WP3UX 02240017 PR8ZX 59+ 50.110 PY5EW
02120036~W7s AZ >CM88 K6QXY	02120036~W0s KS >CM88 K6QXY	02240027 PP5JD 50.110 PR8ZX 02240035 PY2VA 50.110 PR8ZX
02120119 N7SQN DM417EM13 1330 50.125 N0RQ 02140030 W7CNK 59 EM15>EM70 1248 K4RX	02121319 KOVUY 55 2842 50.125 W1JJ	02240155 PR7AR HI23>GI64 1331 50.110 PR8ZX 02240257 PR8ZX 50.110 PP5JD
02140031 WA/JTM DM335EM33 2//1 .133 AG4ZE 02170124 K7TOP 59 DM43>EM22 50.125 WB5NRI	02040007 W01JR DM79>DM04 1359 50.065 B N3LQ/6 02040052 NOVR DM78>EM17 709 50.125 02040104 NOBU 53 DN70>EM17 50.145 S W5UWB 02040105 NOPB 56 EM39>EL17 50.165 S W5UWB 02040106 K0AXE DM79>EM17 730 50.155 02040109 W0RLI 52 CN85>EL17 50.165 S W5UWB 02040129 K0EC 529 1535 50.068 B K9MU 02040121 NOVR DM78>CN85 1673 50.155 02040131 NOVR DM78>CN85 1673 50.145 02040134 W01JR 559 1535 50.065 B K9MU 02040135 K0VUY 1579 50.125 02040234 KCOTBE DM78>CN85 1673 125 02040234 KCOTBE DM78>CN85 1673 125 02040239 NOLL EM09>DM25 1477 50.077 B K7FED 02040325 W01JR DM79 1614 50.065 B W0RLI/7 02040325 W01JR DM79 1614 50.065 B W0RLI/7 02040331 W0HTK DM59 50.065 B W0RLI/7 02040331 W0HD DM79>CN85 1614 50.065 B W0RLI/7 02040331 WOHD DM79>CN85 1614 50.065 B W0RLI/7 02040331 WOHD DM79>CN85 1614 50.135 0204037 K0UO EM07 567 50.069 B W0RLI 02040731 KCORWC DN70 DM04 1401 125 N3LQ/6 0205XXXX W0MTK 0M59 COSCABS B K6QXY 02060329 K0C1Y EM25>DM43 1481 50.125 02060111 W01JR DM79>CN85 1614 50.065 B W0RLI/7 02060120 W0MTK, W01JR, W08 CO >CM88 B K6QXY 02060321 KCOUYK 59 DM79>EN44 1281 S0064 B K6QXY 02080228 W0MTK , W01JR/B 1579 50.065 B K6QXY 02080221 KOOR DM79>DM33 977 50.125 K6GVY 02080221 KOOR DM79>DM33 977 50.125 K7D 02080317 K0ETD DM42>CN85 1774 50.128 K6GXY 02080245 KCORWC 1579 50.300 02080225 KOAXE DM79>DM33 977 50.125 K7D 02080317 K0ETD DM42>CN85 1774 50.128 K6GXY 02103349 KOUD DM78>DM39 F0.125 K7D 02132242 W01JR DM79>EM60 1915 50.065 B N5BO 02132250 KUO EM07>EM60 1208 50.125 N5BO 021323216 KOEC DM69>EM60 2071 50.068 B N5BO 021323216 KOEC DM69>EM60 2071 50.068 B N5BO 021323216 KOEC DM69>EM60 2071 50.068 B N5BO 02132329 NDOP SX5 EM04>EM90 999 50.125 N5BO	02250504 PR8ZX 5571 50.110 W WP3UX 02260047 PY5EW GG46>GI64 2046 50.110 PR8ZX
02170134 W7/K3TYE 59 DM42>EM25 .125 KM5ES 02170258 N7TPJ DM43>EM22 50.125 WB5NRI	02132252 NEOP EM04>EM60 1208 50.125 N5BO	02260137 PP5JD 50.110 PR8ZX 02260151 PP5JD 52 5571 50.130 S WP3UX
02171821 W7NAN 59 DM61>EM22 50.125 W5TDN 02190228 KA7BGR 559 CN82>DM43 50.075 B AC7XP	02132309 NEOP 5X5 EM045EM79 1359 W81F 02132316 KOEC DM69>EM60 2071 50.068 B N5BO	02270056 PP5CG 59+ 50.120 PR8ZX 02270135 PY3ARZ CQ 50.110 PR8ZX
02190304 K7TOP 54 DM43>CN84 50.125 KC7OTV 02190342 W7/K3TYE DM42>DM98 50.400 A K6NC	02132349 N0JJQ EN21>EM60 1417 50.145 N5BO 02140057 K0CIY EM25>EM60 929 50.125 N5BO	TOTALDAD & TODAGO
02200044 WA7JTM DM33>EM22 50.125 WB5NRI	02150131 KOCIY EM25>DM04 K6GXO	02012349 9Y4AT 559>GG66 4075 50.015 B PY2OC
02200145 N7SQN DM42 WB5NRI 02200213 K7TOP 55 DM43>EM22 50.125 W5TDN	02150312 W0IJR 579 DM79>DM43 50.065 B AC7XP 02170006 NOLL EM09>EM60 1479 50.078 B N5BO	02082351 9Y4AT 599 4523 50.015 B PY1NB 02100111 9Y4AT 599 4523 50.015 B PP5JD
02210237 N7SQN DM41>EM13 50.150 W00OG 02210300~W7s AZ >CM88 K6QXY	02170010 KCOHFL EM17>EM60 1204 .125 N5BO 02170013 KOCIY 55 2377 50.125 N3DB	02220027 9Y4AT 559 4523 50.015 B PY2OC 02220029 9Y4AT 599 4523 50.015 B PP5JD
02210304 N7SQN 59 DM41>CM98 50.125 W6KBX 02210306 N7SQN 59 AL DM41>CM98 1196 K6QG	02170020 K0CIY EM25>EL96 H KG4RWO 02170021 K0CIY EM25>EM60 929 50.125 N5BO	02230022 9Y4AT 579>GG53QW 4312 .015 B PP5XX 02230357 9Y4AT 579 4523 50.015 B PR8ZX
02212042 KC7BFK 3553 50.110 N2	02170028 NOPB S7 EM39>FM03 50.130 KI4AQQ 02170033 KOCIY 59+ FM16 2465 50.125 W4RVZ	02240004 9Y4AT 599 4523 50.015 B PP5JD 02240031 9Y4AT 559 4523 50.015 B PR7AR
United States, W8	02170034 KOUO EM07>EM60 1350 50.080 B N5BO 02170038 KCOATQ S5 EM29>FM03 50.125 KI4AOQ	02240046 924FZ 4523 50.110 PY2VA 02240053 924FZ JULIEN 4523 50.110 PY3ARZ
02010243 N8UX 1346 50.095 WA4JQS 02060141 W8IF EM79>EM17 1066 50.140 NOLD	02190031 KOVUY EM48>EM89 699 50.145 WZ8D 02201440 KOVUY 53> NC 2516 50.125 H W4RVZ	02240121 9Y4AT LOUD>GG67 3973 50.015 B PY2BRZ 02240153 9Y4AT 599 4523 50.110 B PP5JD
02060142 W8IF EM79>CN90 50.140 K6ME 02100250 WA82BT CW 1820 50.099 C AD5VJ	02212200 KOVUY 59 EM48>EM89 699 .125 WZ8D 02220309 KOVUY BOOMING>EM89 1882 WZ8D	02250433 9Y4AT 579 4523 50.015 B PR8ZX 02260056 9Y4AT 559 4523 50.015 B PP5JD
02132237 W8IF 58 DM82>EM79 1791 .125 K5YC 02132306 WA8ZBT 56 EM12>EM79 1328 W8IF	02230234 KOVUY EM48 LOUD 1213 50.145 WZ8D 02240105 KOKP 22 >EN24 50.072 B NOVQA	
02132336 KC8ZJL EM11 1604 50.140 W5SSG 02132355 WA8ZBT EM83>EM12 1309 .135 AG4ZE	Denoute of Ossessi	URUGUAY 02270104 CX7BBR CQ 1009 50.110 PR8ZX
02140037 W8FR EM54>EM13 745 50.173 NORQ 02140054 WA8ZBT EM12>EM60 973 50.177 N5BO	Reports of Oceania	VENEZUELA
02170048 N8UUP EN82>EM60 1380 50.135 N5BO 02220305 WZ8D EM89>EM60 1064 50.125 N5BO	AUSTRALIA, General	02082352 YV4AB 599 4839 50.026 PY1NB
02230251 WZ8D EM89>EM60 1064 50.145 N5BO	02080807 VK TV 56 -0900 46.172 V PF95GA 02220315 VK TV NENO S5>PF95GA 46.260 V SWL	02090145 YV5ESN 4839 50.110 PY2YW 02230358 YV4AB 559 4839 50.025 B PR8ZX
United States, W9	02220335 VK TV RTQ0 S4>PF95GA 46.172 V SWL 02260554 VKTV S7 46.17, S9 46.24>PM74 V JG3LEB	02240007 YV4AB 519 4839 50.025 B PR8ZX 02240024 YV5ESN 4839 50.110 PP5AR
02011938 K9W2B GARY DM24>EM13 1660 K5SWW 02020049 K9W2B DM24>EM02 1498 50.130 AE5B		02240025 YV4AB 559>GG48 4064 50.025 B PY2SRB 02240040 YV4AB 529>GG46 4256 50.026 B PY5EW
02020118 K9WZB 55 DM24>EM42 2230 N5ASA 02032352 W9/K2DRH EN41>DM33 2126 .125 K7ZD	Australia-New South Wales 02070234 VK2RHV 539 >0408 >RE66 B ZL3NW	02240047 YV4GMJ 4839 50.110 PY2VA 02250507 YV5IAL 4839 50.110 PR8ZX
02040000~W9s? >CM88 K6QXY 02040119 W9/K2DRH EN41>CM97 2598 .185 K3UG/6	02260315 VK2RHV 579 >0428 >AUCKLAND B ZL3NE/1	
02040123 W9XQ DM73>CN85 2032 50.130 W0RLI 02040127 W9/K2DRH 59/59 EN41>CM88 S K6QXY	Australia-Queensland-VK4	QSL Information
02040148 KA9FOX EN43>CM87 2767 .132 KB6NAN 020401XX W9s IL, WI >CM88 K6QXY	02041113 VK4ABW 28 EME 15768 50.193 G4IGO 02080804 VK4RTL 569 -0927 50.087 B PF95GA	DZ1JP: via JA1HGY
02040238 W9VD EM69>DM33 2407 50.138 K7ZD 02040239 W9VW EM69>DM33 2407 50.138 K7ZD	02080816 VK4ABP 549 -0840 52.346 B PF95GA 02110309 VK4RTL S9 50.087 B VK5UBC	J6/UR5BCP: via KD7WPJ
02040247 W9/K2DRH EN41>DM33 2126 .125 K7ZD 02052234 KB9WL 3097 50.125 N6CW	02230307 VK4RTL S8 50.087 B VK5UBC 02270153 VK4RGG 529 B VK3DUT	JT1Y, JT0Y: via IOSNY